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NOTICE OF ALLOWANCE AND FEE(S) DUE

22801

7590

08/06/2009

LEE & HAYES, PLLC
601 W. RIVERSIDE AVENUE
SUITE 1400
SPOKANE, WA 99201

EXAMINER

LANGHINOJA, KUNAL N

ART UNIT

PAPER NUMBER

2427

DATE MAILED: 08/06/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,884	09/05/2003	Daniel J. Zigmund	MS1-1590US	1559
TITLE OF INVENTION: MEDIA NETWORK USING SET-TOP BOXES AS NODES				

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	11/06/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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22801 7590 08/06/2009

LEE & HAYES, PLLC
601 W. RIVERSIDE AVENUE
SUITE 1400
SPOKANE, WA 99201

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/656,884 09/05/2003

Daniel J. Zigmund

MS1-1590US

1559

TITLE OF INVENTION: MEDIA NETWORK USING SET-TOP BOXES AS NODES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	11/06/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
LANGHNOJA, KUNAL N	2427	725-078000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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LEE & HAYES, PLLC 601 W. RIVERSIDE AVENUE SUITE 1400 SPOKANE, WA 99201			LANGHINOVA, KUNAL N	
			ART UNIT	PAPER NUMBER
			2427	

DATE MAILED: 08/06/2009

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1137 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1137 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/656,884

Applicant(s)

ZIGMOND ET AL.

Examiner

KUNAL LANGHNOJA

Art Unit

2427

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 05/14/2009.
2. ☒ The allowed claim(s) is/are 1-11, 14, 17-18, 21-31, 35-37, 40, 42-47, 49-57.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Election/Restrictions

1. Claim 50 is directed to an allowable product. Pursuant to the procedures set forth in MPEP § 821.04(B), claims 9, 11, 21, 22, 29-31, 42-47, 49, 56-57, directed to the process of making or using an allowable product, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104 in light of the examiner's amendment to the claims.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on 04/14/2009 is hereby withdrawn.** In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Benjamin A. Keim on July 28th, 2009.

The claims have been amended to read as follows:

Claims 12-13, 15-16, 19-20, 32-34, 38-39, 41, 48, and 58 are cancelled.

Claim 1. A method for creating a two-way communication from two unidirectional data channels, comprising:

communicatively coupling a set-top box with a hub of a media network, wherein the set-top box receives a streaming Moving Picture Experts Group (MPEG) video modulated on a coaxial cable rather than over an Internet protocol-based local area network;

filtering signals received by the media network from a multimedia headend to provide one or more available frequencies for communication between the set-top box and the hub;

filtering signals transmitted from the media network to the multimedia headend to prevent media network signals of the one or more available frequencies for communication from leaving the media network;

tuning the set-top box to the one or more available frequencies for communication to send ALOHA data to the hub on an out-of-band channel through a Quadrature Phase Shift Keying (QPSK) demodulator;

tuning the set-top box to a frequency other than the one or more available frequencies for communication between the set-top box and the hub to receive the signals from the multimedia headend on the out-of-band channel; and

tuning the set-top box to receive Quadrature Amplitude Modulation (QAM) modulated MPEG data and a multimedia content from the hub on an in-band channel; wherein the filtering is performed by a notching filter;

wherein the hub is a personal computer comprising an API layer configured to mask the two unidirectional data channels such that the two unidirectional channels present an interface that appears as a bidirectional channel to applications and functions on the hub.

receiving the streaming Moving Picture Experts Group (MPEG) video on the in-band channel of the set-top box using one of the selected frequencies, wherein a program content is encrypted by creating two encrypted program streams from the program content such that for each I frame in the MPEG data one of the two program streams contains an un-modified I frame and the other of the two program streams contains random shuffling of MPEG slices of the I frame and the program content is decrypted by a binary key that for a given I frame identifies the one of the two encrypted program streams as containing the un-modified I frame when a digit of the binary key is 0 and identifies the other of the two program streams as containing the un-modified I frame when the digit of the binary key is 1.

Claim 14. A system, comprising: a computing hub for receiving and storing multimedia content; a set-top box coupled with the computing hub and coupled with a

multimedia content source in order to receive multimedia content directly from the multimedia content source, wherein the set-top box receives streaming Moving Picture Experts Group video modulated on coaxial cable rather than over an Internet protocol-based local area network, wherein the set-top box further receives a program content from the computing hub on the in-band channel, and wherein the set-top box sends data to the hub on an out-of-band channel and receives data from the hub on an in-band channel, a radio frequency filter blocks one or more frequencies of a signal from the multimedia content source to the set-top box and to the hub, and the set-top box sends data to the hub on an out-of-band channel that uses a frequency blocked by the radio frequency filter and receives data from the hub on an in-band channel that uses a frequency blocked by the radio frequency filter.

receiving the program content on the in-band channel of the set-top box using one of the selected frequencies, wherein the program content is encrypted by creating two encrypted program streams from the program content such that for each I frame in the MPEG data one of the two program streams contains an un-modified I frame and the other of the two program streams contains random shuffling of MPEG slices of the I frame and the program content is decrypted by a binary key that for a given I frame identifies the one of the two encrypted program streams as containing the un-modified I frame when a digit of the binary key is 0 and identifies the other of the two program streams as containing the un-modified I frame when the digit of the binary key is 1.

Claim 35. An adapter, comprising: a tuner to tune an out-of-band channel of a set-top box to a frequency selected for communication over a media network, the tuner

configured to receive data sent from the set-top box using an ALOHA protocol on a first frequency for data directed within the media network and a second frequency for data directed out of the media network,

wherein the media network has a hub that communicates over an Internet Protocol-based local area network with one or more network media nodes and communicates over the out-of-band channel and the in-band channel with the set-top box and one or more other set-top boxes;

a quadrature phase shift keying (QPSK) demodulator coupled with the tuner to demodulate upstream data signals from the tuner to the hub;

a quadrature amplitude modulation (QAM) modulator to receive and modulate data and multimedia content from the hub;

an upconverter coupled with the quadrature amplitude modulation (QAM) modulator to upconvert modulated data and multimedia content signals to the set-top box; and

a Moving Picture Experts Group (MPEG) decoder and a National Television System Committee (NTSC) video standard encoder to receive video content from the hub and a radio frequency modulator coupled with the MPEG decoder/NTSC encoder to modulate the video content signals for the set-top box.

receiving the video content on the in-band channel of the set-top box using one of the selected frequencies, wherein the video content is encrypted by creating two encrypted program streams from the video content such that for each I frame in the MPEG data one of the two program streams contains an un-modified I frame and the

other of the two program streams contains random shuffling of MPEG slices of the I frame and the video content is decrypted by a binary key that for a given I frame identifies the one of the two encrypted program streams as containing the un-modified I frame when a digit of the binary key is 0 and identifies the other of the two program streams as containing the un-modified I frame when the digit of the binary key is 1.

Claim 40. A content protection system, comprising: a content protector to create multiple scrambled program streams from a single program stream according to a key, wherein the content protector places an unscrambled video frame of program content in any one of the scrambled program streams and places an associated scrambled video frame of program content in each of the remaining multiple scrambled program streams, and wherein the identity of the scrambled program stream receiving the unscrambled video frame is recorded as a corresponding part of the key: and

wherein for each I frame in the single program stream one of the two scrambled program streams contains an un-modified I frame and the other of the two scrambled program streams contains random shuffling of MPEG slices of the I frame and the single program stream is decrypted by a binary key that for a given I frame identifies the one of the two scrambled program streams as containing the un-modified I frame when a digit of the binary key is 0 and identifies the other of the two scrambled program streams as containing the un-modified I frame when the digit of the binary key is 1;

a content decrypter to receive the multiple scrambled program streams and the key and decode the multiple scrambled program streams into a single program stream according to the key.

Claim 51. A method of using a media network having a hub to send multimedia content to media network nodes and to set-top boxes in the media network, comprising:

tuning the set-top boxes to selected frequencies reserved for communication in the media network;

requesting a trick mode on an out-of-band channel of a set-top box using one of the selected frequencies, wherein the out-of-band channel comprises frequencies from at least about 5 megahertz to at most about 42 megahertz and is used for upstream communication from the set-top box to the hub by sending ALOHA data;

receiving a confirmation of the requesting a trick mode on the in-band channel of the set-top box using one of the selected frequencies, wherein the in-band channel is used for downstream communication from the hub to the set-top box by sending data via a Quadrature Amplitude Modulation (QAM) modulator and an upconverter and the hub is a computer comprising an API layer configured to mask the out-of-band channel and the in-band channel such that the out-of-band channel and the in-band channel present an interface that appears as a bidirectional channel to applications and functions on the hub; and

receiving program content in the trick mode on the in-band channel of the set-top box using one of the selected frequencies;

wherein the program content on the in-band channel of the set-top box using one of the selected frequencies, wherein the program content is encrypted by creating two encrypted program streams from the program content such that for each I frame in the MPEG data one of the two program streams contains an un-modified I frame and the

other of the two program streams contains random shuffling of MPEG slices of the I frame and the program content is decrypted by a binary key that for a given I frame identifies the one of the two encrypted program streams as containing the un-modified I frame when a digit of the binary key is 0 and identifies the other of the two program streams as containing the un-modified I frame when the digit of the binary key is 1.

Claim 52. One or more computer readable media containing instructions that are executable by a computer to perform actions comprising:

filtering signals received by the media network to provide one or more clear frequencies for communicating between a set-top box and a hub of a media network;

tuning the set-top box to send data to the hub on an out-of-band channel, wherein the out-of-band channel comprises frequencies from at least about 5 megahertz to at most about 42 megahertz and is used for upstream communication from the set-top box to the hub by sending ALOHA data; and

tuning the set-top box to receive a program content from the hub on an in-band channel, wherein the in-band channel is used for downstream communication from the hub to the set-top box by sending data via a Quadrature Amplitude Modulation (QAM) modulator and an upconverter, wherein the hub is a computer comprising an API layer configured to mask the out-of-band channel and the in-band channel such that the out-of-band channel and the in-band channel present an interface that appears as a bidirectional channel to applications and functions on the hub,

receiving the program content on the in-band channel of the set-top box using one of the selected frequencies, wherein the program content is encrypted by creating

two encrypted program streams from the program content such that for each I frame in the MPEG data one of the two program streams contains an un-modified I frame and the other of the two program streams contains random shuffling of MPEG slices of the I frame and the program content is decrypted by a binary key that for a given I frame identifies the one of the two encrypted program streams as containing the un-modified I frame when a digit of the binary key is 0 and identifies the other of the two program streams as containing the un-modified I frame when the digit of the binary key is 1.

3. The following is an examiner's statement of reasons for allowance:

Prior art or record fails to reasonably teach or suggest receiving the program content on the in-band channel of the set-top box using one of the selected frequencies, wherein the program content is encrypted by creating two encrypted program streams from the program content such that for each I frame in the MPEG data one of the two program streams contains an un-modified I frame and the other of the two program streams contains random shuffling of MPEG slices of the I frame and the program content is decrypted by a binary key that for a given I frame identifies the one of the two encrypted program streams as containing the un-modified I frame when a digit of the binary key is 0 and identifies the other of the two program streams as containing the un-modified I frame when the digit of the binary key is 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KUNAL LANGHNOJA whose telephone number is 571-270-3583. The examiner can normally be reached on M-F 10:00 A.M.- 6:00 P.M. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on 571-272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. L./
Examiner, Art Unit 2427

Application/Control Number: 10/656,884

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/Scott Beliveau/

Supervisory Patent Examiner, Art Unit 2427